

Book review

Chlamydial Infections. Edited by P-A Mårdh, K K Holmes, J D Oriel, P Piot, and J Schachter, 1982. Fernström Foundation Series, Elsevier Biomedical Press, Amsterdam. Volume 2, Pp 454. Price US\$63.25.

In this volume there are 77 individual contributions on chlamydial infection ranging in approach from a statement of biological concepts to details of experimental salpingitis in the macaque monkey. This important publication will make accessible the results of detailed studies on chlamydiae covering in each section aspects of biology, infections in various anatomical sites in adults and neonates, treatment, immunology, animal models, and epidemiology. Each paper can stand on its own, though each section includes a useful review. J M Moulder sets the scene in a general statement of biological concepts and lists some basic dilemmas as yet not answered with certainty. In such a substantial collection it would be invidious for me to pick out individual papers by naming author(s) for consideration. Instead I have attempted to summarise a few of the highlights of the symposium.

Among the biological papers one author discusses a current concept that chlamydiae interact with the host cell membrane bringing about a burst of local prostaglandin synthesis and suggests that variations in the host's hormonal state (for example, with the menstrual cycle) may modify susceptibility to infection. The demonstration that host-free chlamydiae can synthesise macromolecules has led to the suggestion that it may be possible to establish conditions for axenic growth.

Differences in the pathogenicity of the 15 recognised serotypes (three for lymphogranuloma and 12 for trachoma-inclusion-conjunctivitis agents) are subjects considered by several authors. Studies on the outer membrane indicate that an antigenically complex major outer membrane protein is exposed on the surface of all *Chlamydia trachomatis* isolates. The cloning and expression in *Escherichia coli* of *C. trachomatis* antigens and partial characterisation of these antigens has been described. Cloned genes for major chlamydial immunogens are a powerful tool for studying the immunobiology of chlamydia. A first record of a phage infecting an isolate of *Chlamydia psittaci* is recorded.

In eye infection a single inoculum may produce an acute follicular conjunctivitis

but repeated inoculation and possibly persistent infection is required to produce the chronic disease characteristic of trachoma. Not only infections of the respiratory tract but also those of the genital tract may be acquired neonatally. In non-gonococcal urethritis the aetiology may be diverse but *C. trachomatis* is considered an important cause. In the review of this subject the vexatious problem of recurrence in non-gonococcal urethritis is discussed.

In southern Africa *C. trachomatis* may be isolated directly from genital ulcers. These ulcers are described as being deep, about 4-6 mm in diameter with elevated edges and often a purulent or indurated base. In time the serotype concerned in these cases will be reported but as a type K strain has been isolated from a bubo in a classical case of LGV seen in Belgium, non-LGV strains of *C. trachomatis* may indeed be invasive. As the authors observe the apparent ability of *C. trachomatis* to infect squamous cells deserves further investigation.

In Lund, Sweden, since 1976, when routine chlamydial isolations have been available, there has been an apparent decline in incidence of this infection in parallel with gonorrhoea. The comparatively higher incidence of chlamydial infection of the cervix in young women may be the predilection for columnar epithelium to extend over the portio in that age group. *C. trachomatis* is certainly considered to be an important cause of salpingitis in women in the western world but the true rate of resultant infertility is not yet possible to determine. Though *C. trachomatis* does not cause recognisable inflammatory symptoms in all women it is clearly an aetiological agent in some.

Neonatal infections range in severity from a mild increase in eye secretions to an acute purulent process. If untreated a mild follicular conjunctivitis supervenes and persists for months with generally a decreasing severity. The organism is linked also to an afebrile pneumonia but less clearly to nasopharyngitis and otitis media and bronchitis. Other pathogens may have an additive or synergistic effect.

In pelvic inflammatory disease the use of doxycycline and metronidazole may prevent tubal damage. Though serological tests are not easily available a microimmunofluorescence titre of $>1/128$ is believed to be an indicator of tubal damage.

Cell culture techniques have become more clearly defined. Close collaboration between clinicians and laboratory staff is essential. Inoculation directly into cell culture without an intervening storage

period may be ideal but is seldom reached. If it is to be less than 24 hours storage at 4°C is believed to be satisfactory. If longer periods are likely then storage at -60°C or below is better. In field studies tightly capped plastic capsules may be kept in liquid nitrogen refrigerators.

The role of immunity to *C. trachomatis* infection is not understood and questions remain unanswered about the effectiveness of antibody in protection. High titred monoclonal antibody specific for the major outer membrane protein brings the hope for immunodiagnosis of chlamydial infection by direct examination of cervical and urethral samples.

Studies on chimpanzees have been reported, but apart from the propriety of using the great apes in such studies practicality, as well as genetic homogeneity, makes laboratory mice a more useful model for the study of immunopathogenesis of *C. trachomatis* infection.

This volume should find a place in all medical libraries and should be available to all concerned in the study of infections due to this microorganism. It covers a wide range of disciplines, and clinicians will find clues to oft repeated questions. Epidemiologists and laboratory personnel will clearly wish to use its extensive bibliographies as well as the reports in fundamental biology.

D H H Robertson

Notices

International symposium on medical virology

The third international symposium on medical virology, sponsored by the Medical Microbiology Division, University of California, is to be held from 19 to 21 October 1983 at the Disneyland Hotel, Anaheim, California, USA. For further information, please contact: Dr Luis M de la Maza, Department of Pathology, University of California, Irvine Medical Center, 101 City Drive, Orange, California 92668, USA.

Société de Pathologie Infectieuse

The French-speaking society of infectious diseases will be holding a meeting in Lille, France, on Friday 3 June 1983. The theme will be the sexually transmitted diseases and pregnancy.